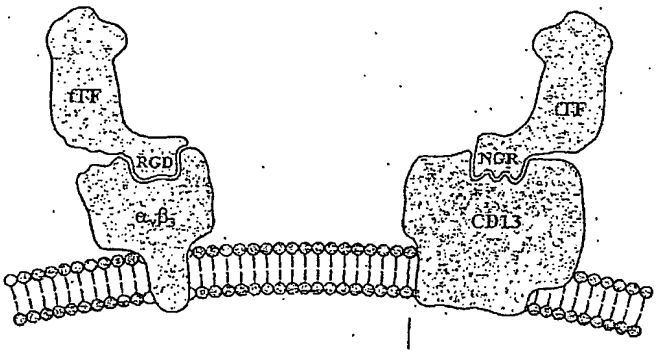
Fig. 1



Tumor endothelial cell

Fig. 2:

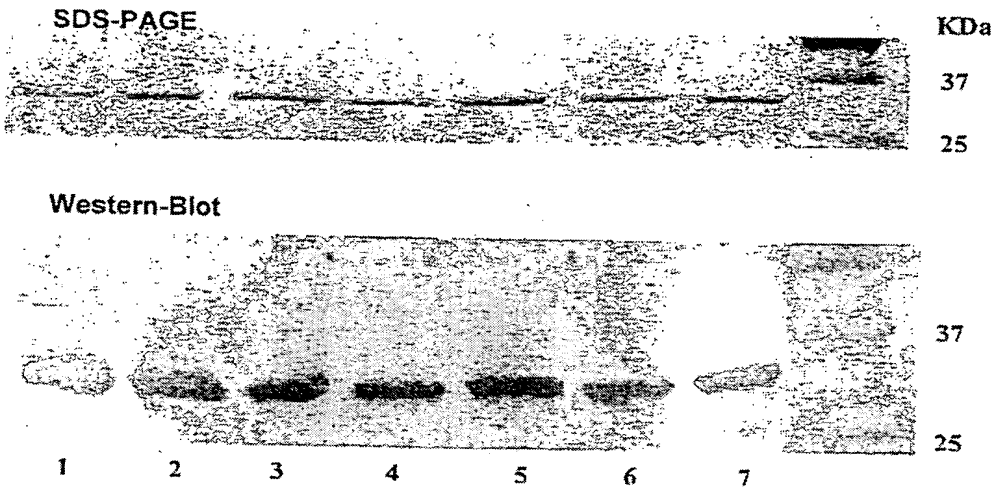


Fig. 3

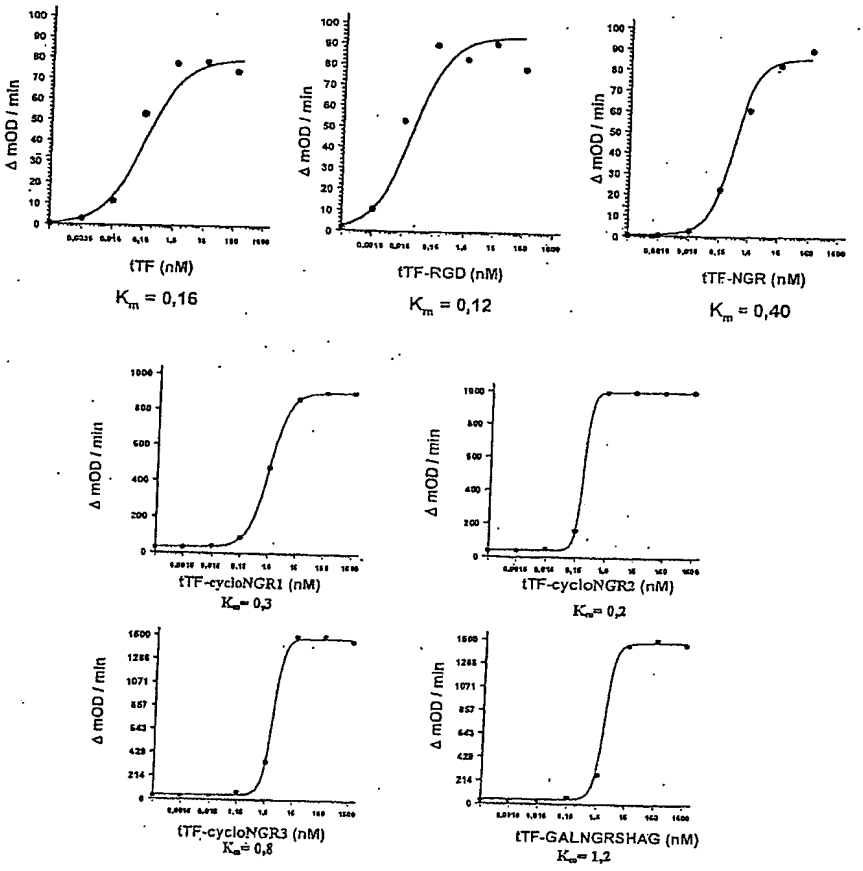

Δ mOD / min
tTF (nM)
K_m = 0,16
tTF-RGD (nM)
K_m = 0,12
tTF-NGR (nM)
K_m = 0,40
tTF-cycloNGR1 (nM)
K_m= 0,3
tTF-cycloNGR2 (nM)
K_m= 0,2
tTF-cycloNGR3 (nM)
K_m= 0,8
tTF-GALNGRSHAG (nM)
K_m= 1,2

Fig. 4

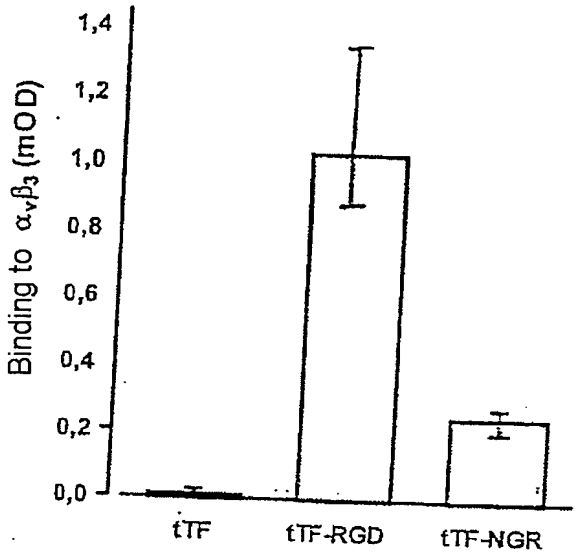

Binding to $\alpha_v\beta_3$ (mOD)
1,4
1,2
1,0
0,8
0,6
0,4
0,2
0,0
tTF
tTF-RGD
tTF-NGR

Fig. 5

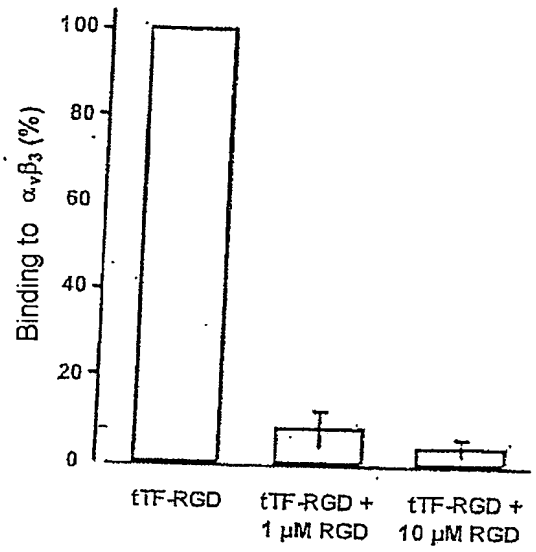

100
80
60
40
20
0
Binding to $\alpha_v\beta_3$ (%)
tTF-RGD
tTF-RGD + 1 µM RGD
tTF-RGD + 10 µM RGD

Fig. 6

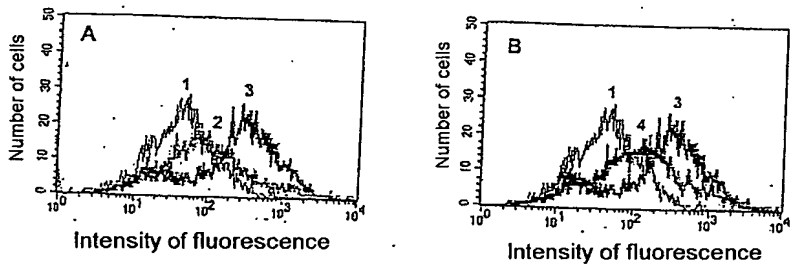

A
Number of cells
Intensity of fluorescence
1
2
3
B
Number of cells
Intensity of fluorescence
1
3
4

Fig. 7

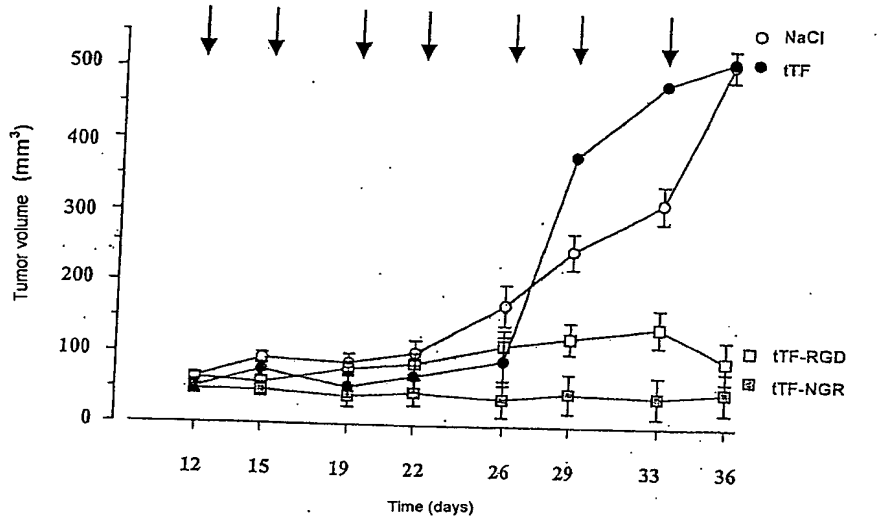

NaCl
tTF
tTF-RGD
tTF-NGR
Tumor volume (mm³)
500
400
300
200
100
0
12
15
19
22
26
29
33
36
Time (days)

Fig. 8

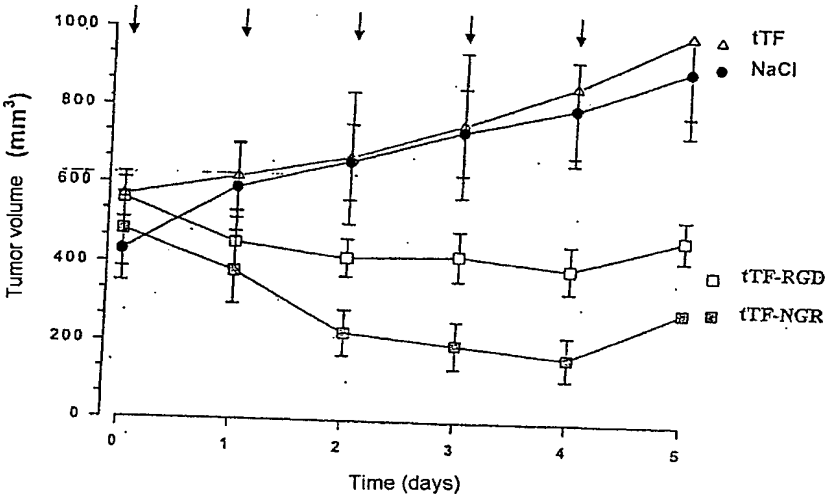

1000
800
600
400
200
0
Tumor volume (mm³)
0
1
2
3
4
5
Time (days)
tTF
NaCl
tTF-RGD
tTF-NGR

Fig. 9:

Fig. 10:

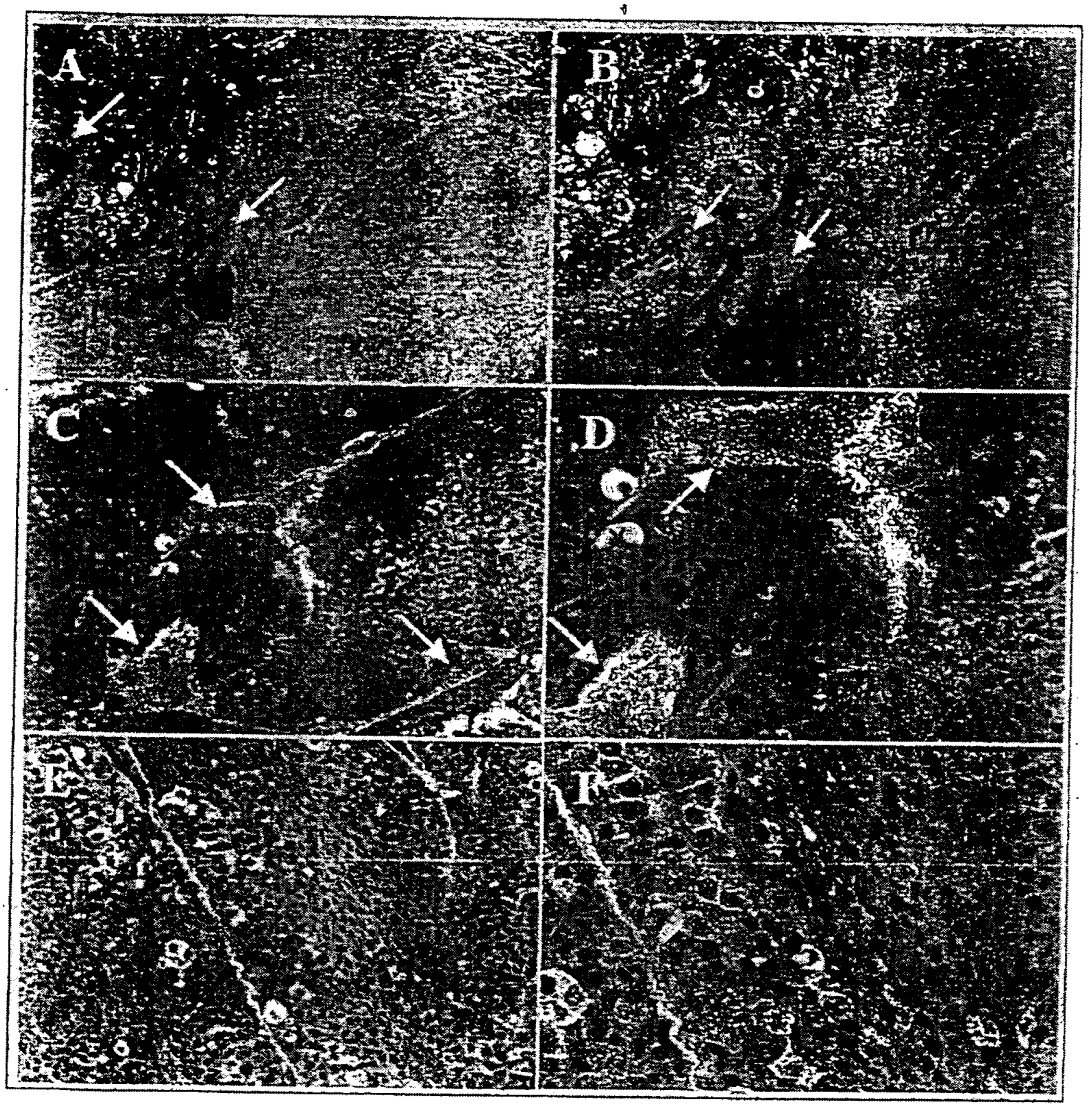


Fig. 11:

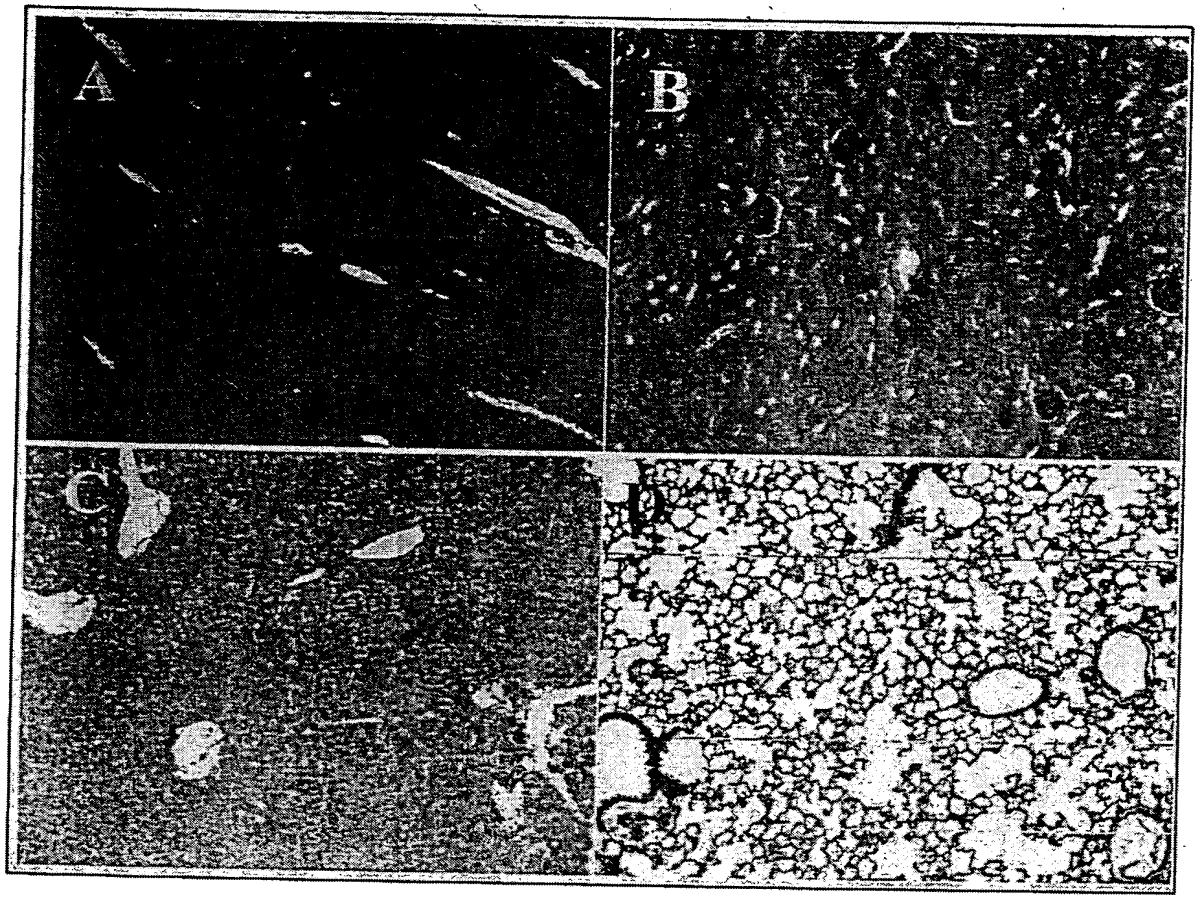


Fig. 12:

SGTTNTVAAYNLTWKSTNFKTILEWEPKPVNQVYTVQISTKS
GDWKSKCFYTTDTECDLTDEIVKDVKQTYLARVFSYPAGNVE
STGSAGEPLYENSPEFTPYLETNLGQPTIQSFEQVGTKVNVT
VEDERTLVRRNNTFLSLRDVFGKDLIYTLYYWKSSSSGKKTA
KTNTNEFLIDVDKGENYCFSVQAVIPSRTVNRKSTDSPVECM
GQEKGEFREIFYIIGAVVFVVIILVIILAISLHKCRKAGVGQSW
KENSPLNVS

Fig. 13:

SGTTNTVAAYNLTWKSTNFKTILEWEPKPVNQVYTVQISTKS
GDWKSKCFYTTDTECDLTDEIVKDVKQTYLARVFSYPAGNVE
STGSAGEPLYENSPEFTPYLETNLGQPTIQSFEQVGTKVNVT
VEDERTLVRRNNTFLSLRDVFGKDLIYTLYYWKSSSSGKKTA
KTNTNEFLIDVDKGENYCFSVQAVIPSRTVNRKSTDSPVECM
GQEKGEFR

Fig. 14:

SGTTNTVAAYNLTWKSTNFKTILEWEPKPVNQVYTVQISTKS
GDWKSKCFYTTDTECDLTDEIVKDVKQTYLARVFSYPAGNVE
STGSAGEPLYENSPEFTPYLETNLGQPTIQSFEQVGTKVNVT
VEDERTLVRRNNTFLSLRDVFGKDLIYTLYYWKSSSSGKKTA
KTNTNEFLIDVDKGENYCFSVQAVIPSRTVNRKSTDSPVECM
GQEKGEFRGRGDSD

Fig. 15:

SGTTNTVAAYNLTWKSTNFKTILEWEPKPVNQVYTVQISTKS
GDWKSKCFYTTDTECDLTDEIVKDVKQTYLARVFSYPAGNVE
STGSAGEPLYENSPEFTPYLETNLGQPTIQSFEQVGTKVNVT
VEDERTLVRRNNTFLSLRDVFGKDLIYTLYYWKSSSSGKKTA
KTNTNEFLIDVDKGENYCFSVQAVIPSRTVNRKSTDSPVECM
GQEKGEFRGNGRAHA

Fig. 16

GTTNTVAAYNLTWKSTNFKTILEWEPKPVNQVYTVQISTKS
DWKSKCFYTTDTECDLTDEIVKDVKQTYLARVFSYPAGNVE
TGSAGEPLYENSPEFTPYLETNLGQPTIQSFEQVGTKVNVT
EDERTLVRRNNTFLSLRDVFGKDLIYTLYYWKSSSSGKKTA
TNTNEFLIDVDKGENYCFSVQAVIPSRTVNRKSTDSPVECM
QEKGEFRGALNGRSHAG

Fig. 17:

SGTTNTVAAYNLTWKSTNFKTILEWEPKPVNQVYTVQISTKS
GDWKSKCFYTTDTECDLTDEIVKDVKQTYLARVFSYPAGNVE
STGSAGEPLYENSPEFTPYLETNLGQPTIQSFEQVGTKVNVT
VEDERTLVRRNNTFLSLRDVFGKDLIYTLYYWKSSSSGKKTA
KTNTNEFLIDVDKGENYCFSVQAVIPSRTVNRKSTDSPVECM
GQEKGEFRGCNGRCG

Fig. 18:

SGTTNTVAAYNLTWKSTNFKTILEWEPKPVNQVYTVQISTKS
GDWKSKCFYTTDTECDLTDEIVKDVKQTYLARVFSYPAGNVE
STGSAGEPLYENSPEFTPYLETNLGQPTIQSFEQVGTKVNVT
VEDERTLVRRNNTFLSLRDVFGKDLIYTLYYWKSSSSGKKTA
KTNTNEFLIDVDKGENYCFSVQAVIPSRTVNRKSTDSPVECM
GQEKGEFRGCNGRCVSGCAGRC

Fig. 19:

SGTTNTVAAYNLTWKSTNFKTILEWEPKPVNQVYTVQISTKS
GDWKSKCFYTTDTECDLTDEIVKDVKQTYLARVFSYPAGNVE
STGSAGEPLYENSPEFTPYLETNLGQPTIQSFEQVGTKVNVT
VEDERTLVRRNNTFLSLRDVFGKDLIYTLYYWKSSSSGKKTA
KTNTNEFLIDVDKGENYCFSVQAVIPSRTVNRKSTDSPVECM
GQEKGEFRGCVLNGRMEC

Fig. 20:

TCAGGCACTACAAATACTGTGGCAGCATATAATTTAACTTGGAAATCAACTAATTTCAAGACAA
TTTTGGAGTGGGAACCCAAACCCGTCAATCAAGTCTACACTGTTCAAATAAGCACTAAGTCAGGAG
ATTGGAAAAGCAAATGCTTTTACACAACAGACACAGAGTGTGACCTCACCGACGAGATTGTGAAG
GATGTGAAGCAGACGTACTTGGCACGGGTCTTCTCCTACCCGGCAGGGAATGTGGAGAGCACCGGT
TCTGCTGGGGAGCCTCTGTATGAGAACTCCCCAGAGTTCACACCTTACCTGGAGACAAACCTCGGA
CAGCCAACAATTCAGAGTTTTGAACAGGTGGGAACAAAAGTGAATGTGACCGTAGAAGATGAACG
GACTTTAGTCAGAAGGAACAACACTTTCCTAAGCCTCCGGGATGTTTTTGGCAAGGACTTAATTTAT
ACACTTTATTATTGGAAATCTTCAAGTTCAGGAAAGAAAACAGCCAAAACAAACACTAATGAGTTT
TTGATTGATGTGGATAAAGGAGAAAACTACTGTTTCAGTGTTCAAGCAGTGATTCCCTCCCGAACA
GTTAACCGGAAGAGTACAGACAGCCCGGTAGAGTGTATGGGCCAGGAGAAAGGGGAATTCAGA

Fig. 21:

TCAGGCACTACAAATACTGTGGCAGCATATAATTTAACTTGGAAATCAACTAATTTCAAGACAA
TTTTGGAGTGGGAACCCAAACCCGTCAATCAAGTCTACACTGTTCAAATAAGCACTAAGTCAGGAG
ATTGGAAAAGCAAATGCTTTTACACAACAGACACAGAGTGTGACCTCACCGACGAGATTGTGAAG
GATGTGAAGCAGACGTACTTGGCACGGGTCTTCTCCTACCCGGCAGGGAATGTGGAGAGCACCGGT
TCTGCTGGGGAGCCTCTGTATGAGAACTCCCCAGAGTTCACACCTTACCTGGAGACAAACCTCGGA
CAGCCAACAATTCAGAGTTTTGAACAGGTGGGAACAAAAGTGAATGTGACCGTAGAAGATGAACG
GACTTTAGTCAGAAGGAACAACACTTTCCTAAGCCTCCGGGATGTTTTTGGCAAGGACTTAATTTAT
ACACTTTATTATTGGAAATCTTCAAGTTCAGGAAAGAAAACAGCCAAAACAAACACTAATGAGTTT
TTGATTGATGTGGATAAAGGAGAAAACTACTGTTTCAGTGTTCAAGCAGTGATTCCCTCCCGAACA
GTTAACCGGAAGAGTACAGACAGCCCGGTAGAGTGTATGGGCCAGGAGAAAGGGGAATTCAGAG
GAAGAGGTGATTCTCCA

Fig. 22:

TCAGGCACTACAAATACTGTGGCAGCATATAATTTAACTTGGAAATCAACTAATTTCAAGACAA
TTTTGGAGTGGGAACCCAAACCCGTCAATCAAGTCTACACTGTTCAAATAAGCACTAAGTCAGGAG
ATTGGAAAAGCAAATGCTTTTACACAACAGACACAGAGTGTGACCTCACCGACGAGATTGTGAAG
GATGTGAAGCAGACGTACTTGGCACGGGTCTTCTCCTACCCGGCAGGGAATGTGGAGAGCACCGGT
TCTGCTGGGGAGCCTCTGTATGAGAACTCCCCAGAGTTCACACCTTACCTGGAGACAAACCTCGGA
CAGCCAACAATTCAGAGTTTTGAACAGGTGGGAACAAAAGTGAATGTGACCGTAGAAGATGAACG
GACTTTAGTCAGAAGGAACAACACTTTCCTAAGCCTCCGGGATGTTTTTGGCAAGGACTTAATTTAT
ACACTTTATTATTGGAAATCTTCAAGTTCAGGAAAGAAAACAGCCAAAACAAACACTAATGAGTTT
TTGATTGATGTGGATAAAGGAGAAAACTACTGTTTCAGTGTTCAAGCAGTGATTCCCTCCCGAACA
GTTAACCGGAAGAGTACAGACAGCCCGGTAGAGTGTATGGGCCAGGAGAAAGGGGAATTCAGAG
GTAACGGAAGAGCACATGCA

Fig: 23:

TCAGGCACTACAAATACTGTGGCAGCATATAATTTAACTTGGAAATCAACTAATTTCAAGACAA
TTTTGGAGTGGGAACCCAAACCCGTCAATCAAGTCTACACTGTTCAAATAAGCACTAAGTCAGGAG
ATTGGAAAAGCAAATGCTTTTACACAACAGACACAGAGTGTGACCTCACCGACGAGATTGTGAAG
GATGTGAAGCAGACGTACTTGGCACGGGTCTTCTCCTACCCGGCAGGGAATGTGGAGAGCACCGGT
TCTGCTGGGGAGCCTCTGTATGAGAACTCCCCAGAGTTCACACCTTACCTGGAGACAAACCTCGGA
CAGCCAACAATTCAGAGTTTTGAACAGGTGGGAACAAAAGTGAATGTGACCGTAGAAGATGAACG
GACTTTAGTCAGAAGGAACAACACTTTCCTAAGCCTCCGGGATGTTTTTGGCAAGGACTTAATTTAT
ACACTTTATTATTGGAAATCTTCAAGTTCAGGAAAGAAAACAGCCAAAACAAACACTAATGAGTTT
TTGATTGATGTGGATAAAGGAGAAAACTACTGTTTCAGTGTTCAAGCAGTGATTCCCTCCCGAACA
GTTAACCGGAAGAGTACAGACAGCCCGGTAGAGTGTATGGGCCAGGAGAAAGGGGAATTCAGAG
GTGCTTTAAATGGAAGATCTCACGCTGGT

Fig. 24:

TCAGGCACTACAAATACTGTGGCAGCATATAATTTAACTTGGAAATCAACTAATTTCAAGACAA
TTTTGGAGTGGGAACCCAAACCCGTCAATCAAGTCTACACTGTTCAAATAAGCACTAAGTCAGGAG
ATTGGAAAAGCAAATGCTTTTACACAACAGACACAGAGTGTGACCTCACCGACGAGATTGTGAAG
GATGTGAAGCAGACGTACTTGGCACGGGTCTTCTCCTACCCGGCAGGGAATGTGGAGAGCACCGGT
TCTGCTGGGGAGCCTCTGTATGAGAACTCCCCAGAGTTCACACCTTACCTGGAGACAAACCTCGGA
CAGCCAACAATTCAGAGTTTTGAACAGGTGGGAACAAAAGTGAATGTGACCGTAGAAGATGAACG
GACTTTAGTCAGAAGGAACAACACTTTCCTAAGCCTCCGGGATGTTTTTGGCAAGGACTTAATTTAT
ACACTTTATTATTGGAAATCTTCAAGTTCAGGAAAGAAAACAGCCAAAACAAACACTAATGAGTTT
TTGATTGATGTGGATAAAGGAGAAAACTACTGTTTCAGTGTTCAAGCAGTGATTCCCTCCCGAACA
GTTAACCGGAAGAGTACAGACAGCCCGGTAGAGTGTATGGGCCAGGAGAAAGGGGAATTCAGAG
GCTGCAACGGTAGATGTGGT

Fig. 25:

TCAGGCACTACAAATACTGTGGCAGCATATAATTTAACTTGGAAATCAACTAATTTCAAGACAA
TTTTGGAGTGGGAACCCAAACCCGTCAATCAAGTCTACACTGTTCAAATAAGCACTAAGTCAGGAG
ATTGGAAAAGCAAATGCTTTTACACAACAGACACAGAGTGTGACCTCACCGACGAGATTGTGAAG
GATGTGAAGCAGACGTACTTGGCACGGGTCTTCTCCTACCCGGCAGGGAATGTGGAGAGCACCGGT
TCTGCTGGGGAGCCTCTGTATGAGAACTCCCCAGAGTTCACACCTTACCTGGAGACAAACCTCGGA
CAGCCAACAATTCAGAGTTTTGAACAGGTGGGAACAAAAGTGAATGTGACCGTAGAAGATGAACG
GACTTTAGTCAGAAGGAACAACACTTTCCTAAGCCTCCGGGATGTTTTTGGCAAGGACTTAATTTAT
ACACTTTATTATTGGAAATCTTCAAGTTCAGGAAAGAAAACAGCCAAAACAAACACTAATGAGTTT
TTGATTGATGTGGATAAAGGAGAAAACTACTGTTTCAGTGTTCAAGCAGTGATTCCCTCCCGAACA
GTTAACCGGAAGAGTACAGACAGCCCGGTAGAGTGTATGGGCCAGGAGAAAGGGGAATTCAGAG
GTTGTAATGGAAGATGTGTTTCTGGATGTGCAGGACGATGT

Fig. 26:

TCAGGCACTACAAATACTGTGGCAGCATATAATTTAACTTGGAAATCAACTAATTTCAAGACAA
TTTTGGAGTGGGAACCCAAACCCGTCAATCAAGTCTACACTGTTCAAATAAGCACTAAGTCAGGAG
ATTGGAAAAGCAAATGCTTTTACACAACAGACACAGAGTGTGACCTCACCGACGAGATTGTGAAG
GATGTGAAGCAGACGTACTTGGCACGGGTCTTCTCCTACCCGGCAGGGAATGTGGAGAGCACCGGT
TCTGCTGGGGAGCCTCTGTATGAGAACTCCCCAGAGTTCACACCTTACCTGGAGACAAACCTCGGA
CAGCCAACAATTCAGAGTTTTGAACAGGTGGGAACAAAAGTGAATGTGACCGTAGAAGATGAACG
GACTTTAGTCAGAAGGAACAACACTTTCCTAAGCCTCCGGGATGTTTTTGGCAAGGACTTAATTTAT
ACACTTTATTATTGGAAATCTTCAAGTTCAGGAAAGAAAACAGCCAAAACAAACACTAATGAGTTT
TTGATTGATGTGGATAAAGGAGAAAACTACTGTTTCAGTGTTCAAGCAGTGATTCCCTCCCGAACA
GTTAACCGGAAGAGTACAGACAGCCCGGTAGAGTGTATGGGCCAGGAGAAAGGGGAATTCAGAG
GATGCGTCTTAAATGGTAGGATGGAATGC

Fig. 27:

A: 5'-CATGCCATGGGATCAGGCACTACAAATACTGTGGCAGCATATAAT-3'
B: 5'-CGGGATCCTATTATCTGAATTCCCCTTTCTCCTGGCCCAT-3'

Fig. 28:

A: 5'-CATGCCATGGGATCAGGCACTACAAATACTGTGGCAGCATATAAT-3'
B: 5'-CGGGATCCTATTATGGAGAATCACCTCTTCCTGTGAATTCCCC-3'

Fig. 29:

A: 5'-CATGCCATGGGATCAGGCACTACAAATACTGTGGCAGCATATAAT-3'
B: 5'-CGGGATCCTATTATGCATGTGCTCTTCCGTTACCTCTGAATTCCCC-3'

Fig. 30:

A: 5'-CATGCCATGGGATCAGGCACTACAAATACTGTGGCAGCATATAAT-3'
B: 5'-CGGGATCCTATTAACCACATCTACCGTTGCAGCCTCTGAATTCCCC-3'

Fig. 31:

A: 5'-CATGCCATGGGATCAGGCACTACAAATACTGTGGCAGCATATAAT-3'
B: 5'-CGGGATCCTATTAACATCGTCCTGCACATCCAGAAACACATCTTCCATTACAACC
TCTGAATTCCCC-3'

Fig. 32:

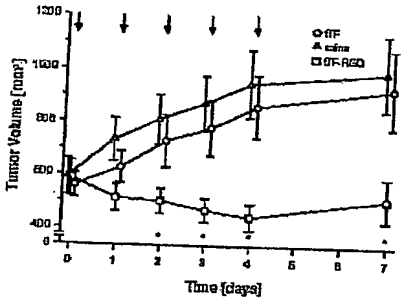
A: 5'-CATGCCATGGGATCAGGCACTACAAATACTGTGGCAGCATATAAT-3'
B: 5'-CGGGATCCTATTA GCA TTC CAT CCT ACC ATT TAA GAC GCA TCC TCTGAATTCCCC-3

Fig. 33:

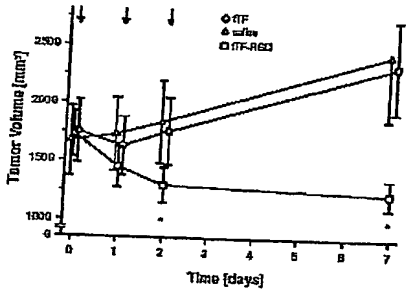
A: 5'-CATGCCATGGGATCAGGCACTACAAATACTGTGGCAGCATATAAT-3'
B: 5'-CGGGATCCTATTA ACCAGCGTGAGATCTTCCATTTAAAGCACCTCTGAATTCCCC-3'

Fig. 34

a


Tumor Volume [mm³]
Time [days]

b


Tumor Volume [mm³]
Time [days]

c

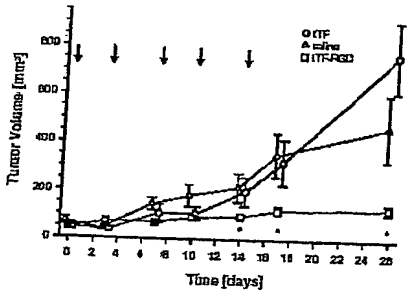

Tumor Volume [mm³]
Time [days]

Fig. 35

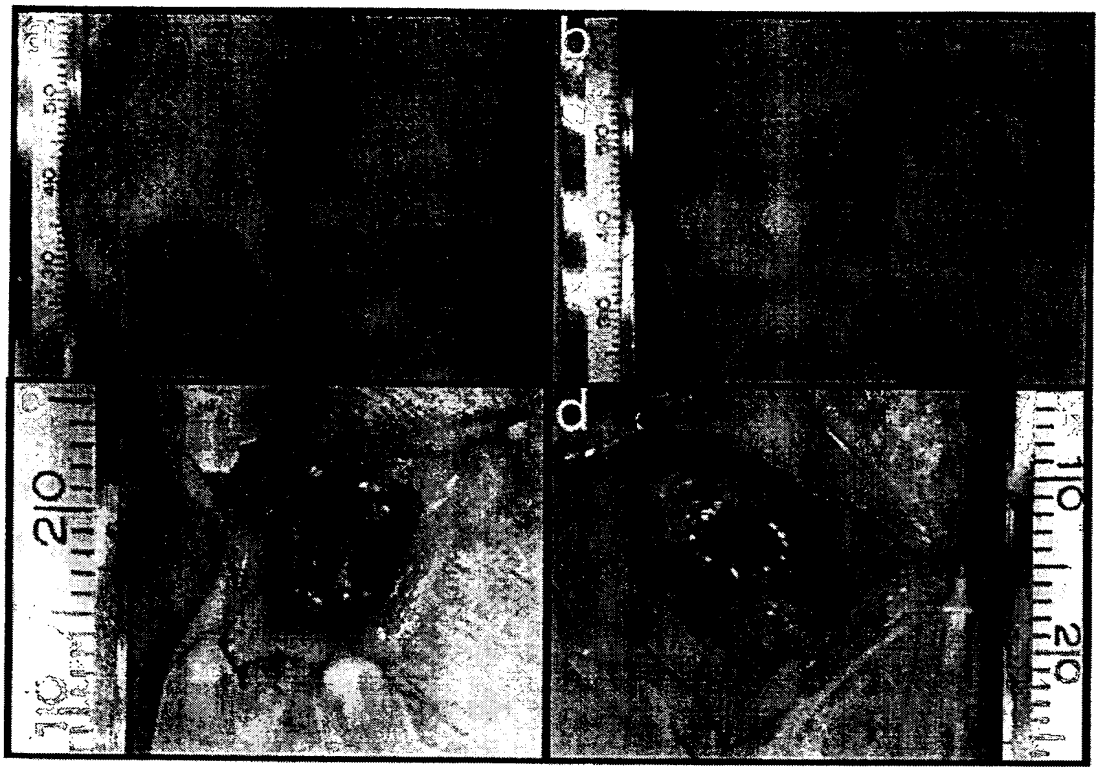
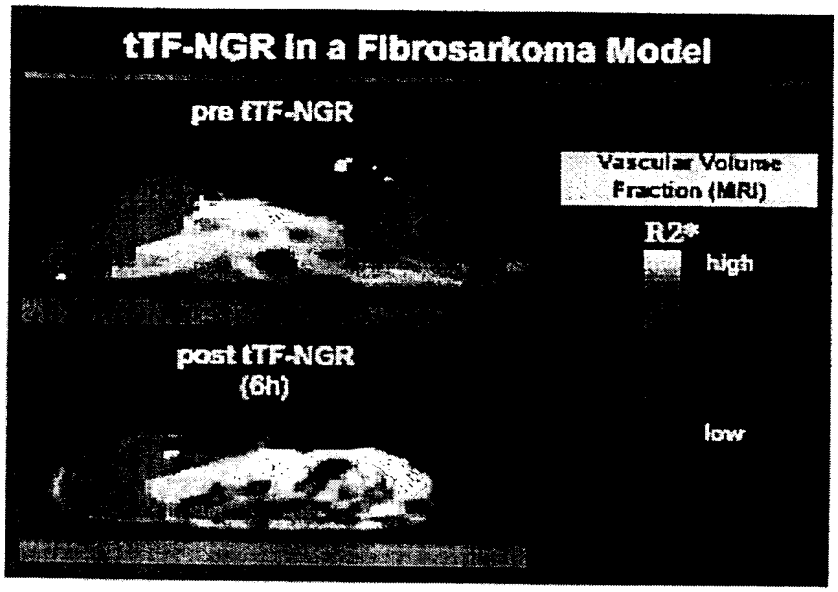


Fig. 36


tTF-NGR in a Fibrosarkoma Model
pre tTF-NGR
Vascular Volume Fraction (MRI)
R2*
high
post tTF-NGR (6h)
low